

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the present application:

Listing of Claims

- 1 1. (canceled) ~~A radio receiver comprising:~~
2 ~~—— at least one amplifier to receive radio signals; and~~
3 ~~—— a control circuit coupled to the at least one amplifier, wherein the control circuit~~
4 ~~adjusts the operation of the at least one amplifier based on the received radio signals.~~
- 1 2. (currently amended) **A The radio receiver having of claim 1, wherein the at**
2 ~~least one amplifier is~~ a LNA to receive a RF signal and produce an amplified signal that
3 is coupled to a down-converting mixer that produces a mixer output, and the ~~control~~
4 **circuit** radio receiver comprises:
5 a peak detector coupled to receive the mixer output to produce a peak signal;
6 an integrator coupled to the peak detector to receive the peak signal and produce
7 an integrated signal;
8 a **second** mixer coupled to receive the integrated signal and a transmit power
9 indicator to produce a current control signal that is coupled to the LNA to control a bias
10 current of the LNA, wherein cross modulation associated with the received RF signal is
11 reduced.
- 1 3. (currently amended) The radio receiver of claim 2, further comprising a
2 **second third** mixer coupled to the output of the integrator and a receiver gain control
3 signal to produce a VCO current control signal that is coupled to a VCO associated with a
4 PLL that drives the down-converting mixer, wherein reciprocal mixing associated with
5 the received RF signal is reduced by adjustment of the VCO associated with the PLL.
- 1 4. (currently amended) An adaptive system for use with a radio receiver to

2 adapt to interfering signals associated with a received RF signal, the radio receiver
3 includes a LNA to receive the RF signal and produce an amplified signal that is coupled
4 to a down-converting mixer that produces a mixer output, the adaptive system comprises:
5 a peak detector coupled to receive the mixer output to produce a peak signal;
6 an integrator coupled to the peak detector to receive the peak signal and produce
7 an integrated signal; and
8 a second mixer coupled to receive the integrated signal and a transmit power
9 indicator to produce a current control signal that is coupled to the LNA to control a bias
10 current of the LNA, wherein cross modulation associated with the received RF signal is
11 reduced.

1 5. (original) The adaptive system of claim 4, further comprising a filter coupled
2 to receive the mixer output and produce a filtered output that is coupled to the peak
3 detector.

1 6. (currently amended) The adaptive system of claim 4, further comprising a
2 LNA control circuit coupled to the second mixer to receive the current control signal and
3 produce a LNA control signal that is coupled to the LNA to control a bias current of the
4 LNA, wherein cross modulation associated with the received RF signal is reduced.

1 7. (currently amended) ~~The adaptive system of claim 4, further comprising~~ An
2 adaptive system for use with a radio receiver to adapt to interfering signals
3 associated with a received RF signal, the radio receiver includes a LNA to receive
4 the RF signal and produce an amplified signal that is coupled to a down-converting
5 mixer that produces a mixer output, the adaptive system comprises:
6 a peak detector coupled to receive the mixer output to produce a peak signal;
7 an integrator coupled to the peak detector to receive the peak signal and
8 produce an integrated signal; and

9 a second mixer coupled to the ~~output of the integrator~~ integrated signal and a
10 receiver gain control signal to produce a VCO current control signal that is coupled to a
11 VCO associated with a PLL that drives the down-converting mixer, wherein reciprocal

12 mixing associated with the received RF signal is reduced by adjustment of the VCO
13 associated with the PLL.

1 8. (original) The adaptive system of claim 7, wherein the VCO control current
2 is coupled to the VCO associated with the PLL via a VCO control circuit.

1 9. (canceled) ~~The adaptive system of claim 4, further comprising a buffer~~
2 ~~coupled between the mixer output and a non-linear element.~~

1 10. (currently amended) The adaptive system of claim ~~9~~ 7, wherein the peak
2 detector ~~non-linear element~~ comprises a diode element.

1 11. (currently amended) ~~The adaptive system of claim 9, further~~
2 ~~comprising:~~ An adaptive system for use with a radio receiver to adapt to interfering
3 signals associated with a received RF signal, the radio receiver includes a LNA to
4 receive the RF signal and produce an amplified signal that is coupled to a down-
5 converting mixer that produces a mixer output, the adaptive system comprises:
6 a nonlinear element coupled to receive the mixer output to produce a peak
7 signal;
8 an ~~second~~ integrator coupled to the non-linear element ~~and the buffer~~ to produce
9 an ~~second~~ integrator output; and
10 a ~~third~~ second mixer coupled to receive the ~~second~~ integrator output and a
11 receiver power indicator to produce a receive control signal.

1 12. (original) The adaptive system of claim 11, wherein the receive control
2 signal is coupled to a receive control circuit, and wherein an output of the receive control
3 circuit is coupled to the down-converting mixer to adjust the down-converting mixer to
4 reduce intermodulation distortion.

1 13. (original) A method for providing an adaptive system for use with a radio
2 receiver to adapt to interfering signals associated with a received RF signal, the radio
3 receiver includes an LNA to receive the RF signal and produce an amplified signal that is

4 coupled to a down-converting mixer that produces a mixer output, the method comprising
5 steps of:
6 deriving a peak signal from the mixer output;
7 integrating the peak signal to produce an integrated signal;
8 mixing the integrated signal and a transmit power indicator to produce a current
9 control signal; and
10 controlling a bias current of the LNA with the current control signal, wherein
11 cross modulation associated with the received RF signal is reduced.

1 14. (currently amended) ~~The method of claim 13, wherein the step of mixing is~~
2 ~~a step of:~~ A method for providing an adaptive system for use with a radio receiver to adapt
3 to interfering signals associated with a received RF signal, the radio receiver includes an
4 LNA to receive the RF signal and produce an amplified signal that is coupled to a down-
5 converting mixer that produces a mixer output, the method comprising steps of:
6 deriving a peak signal from the mixer output;
7 integrating the peak signal to produce an integrated signal;
8 mixing the integrated signal and a receive power indicator to produce a VCO
9 control signal; and
10 ~~the step of controlling is a step of:~~
11 controlling a VCO based on the VCO control signal, wherein the VCO is
12 associated with a PLL coupled to the down-converting mixer, and wherein reciprocal
13 mixing associated with the received RF signal is reduced by adjustment of the VCO
14 associated with the PLL.

1 15. (currently amended) ~~The method of claim 13, wherein the step of mixing is~~
2 ~~a step of:~~ A method for providing an adaptive system for use with a radio receiver to adapt
3 to interfering signals associated with a received RF signal, the radio receiver includes an
4 LNA to receive the RF signal and produce an amplified signal that is coupled to a down-
5 converting mixer that produces a mixer output, the method comprising steps of:
6 deriving a peak signal from the mixer output;

- 7 integrating the peak signal to produce an integrated signal;
8 mixing the integrated signal and a receive power indicator to produce a receive
9 control signal; and
10 ~~the step of controlling is a step of:~~
11 controlling the down-converting mixer based on the receive control signal,
12 wherein intermodulation distortion associated with the received RF signal is reduced.